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ABSTRACT

In order to identify a battery of aptitude tests which could adequately predict the success of applicants to its court-reporting program, MacCormac Junior College contracted with Science Research Associates in Fall 1976 to conduct a longitudinal validation study of court-reporting aptitude measures. Eight tests were administered to each court-reporting student enrolled at the beginning of the Fall term, yielding 26 scores for each student. These scores were measured against a numerical scale reflecting the student's eventual status as: (1) withdrew; (2) accepted a stenographic diploma; (3) earned an Associate degree (A.A.), but failed to pass the state Certified Shorthand Reporter (CSR) exam; (4) earned and A.A. and passed the CSR after more than one try; and (5) earned an A.A. and passed the CSR on the first try. Study results indicated that the correlation between the predictive variables and student success was highest on four measures: typing placement test; social studies reading score from the American College Testing examination; the goal orientation subscale of the Survey of Personal Values; and the language subsection of the Short Test of Clerical Ability. If the average composite score for these items had been used as an entrance criterion, 53% of the entering freshmen would have passed the CSR, instead of the 35% who actually did. The study report describes each of the four predictive criteria. (JP)

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An Aptitude-Test Battery for Court-Reporter Training: Initial Results of a Longitudinal Validation Study

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Training in the court-reporting field is a difficult task for both students and instructors. Although published statistics are rare, the personal experience of those involved in this area indicates that the rate of student withdrawal and failure in such programs is high. If Gregg shorthand drop-out rates may be used as a guide, it is probable that less than half of those who begin in a machine-shorthand course will persist beyond the first or second quarter. (See reviews of Gregg shorthand prognosis studies by Lambrecht, 1972, and Wagoner, 1974.) And, of course, every individual who is admitted but fails to complete the training program represents a considerable waste of time and money -- both for the training institution and for the student.

Most schools make some effort to select students for admission who would appear to have a good chance of successfully completing their training program. However, in court reporting, these criteria are often untested. Their use has just evolved because it seemed to make sense to expect a relationship between this or that entrance criterion and the likelihood that the student would succeed. Often, the admissions requirements for

a court-reporter training program are merely the same general admissions requirements which apply to the college as a whole, and have not been demonstrated to have any specific relevance to success in court reporting. Where the school offers only court reporting, even these general criteria may be abandoned in favor of an open-door admissions policy.

Systematic studies of predictive criteria in court reporting are non-existent. However, it is reasonable to assume that some of the general conclusions from the numerous existing studies of shorthand prognosis may be applicable to an attempt to predict success in court-reporting training. Recent shorthand-prognosis studies and reviews (Lambrecht, 1972; Wagoner, 1974; Balsley, 1979) have emphasized the importance of using multiple-task predictive batteries, including measures of general intellectual ability, manual dexterity, and English language skill. Additionally, it seems obvious that motivational variables are important in any type of training program. However, the few studies which have attempted to investigate such factors have not usually found any significant relationship to shorthand success (e.g., Balsley, 1979).

It is also logical to assume that the common pitfalls of shorthand-prognosis research should be avoided by court-reporting predictive studies, where possible. As discussed by Lambrecht (1972), these pitfalls include the use of course grades as criteria, collecting data from advanced classes (where considerable

natural selection will have already occurred), using small samples, and using measures with low reliability and validity.

Purpose of the Study

The present study was undertaken in an attempt to find an aptitude-test battery which could be administered to applicants to our court-reporting program. An applicant's score on this battery could then be used in counseling the applicant regarding admission to our training program. Those whose aptitude-test results indicated they would have a good chance of successfully completing the 21-month program and, ultimately, of passing the Certified Shorthand Reporter (CSR) examination in Illinois, could be encouraged to apply. If such an instrument could be validated, its use would provide advantages for both the college and its potential students, creating a savings in time, money, effort, and heartache for all parties.

How the Study Was Done

In the fall of 1976, MacCormac contracted with Science Research Associates of Chicago for a longitudinal validation study of court-reporting aptitude measures. The design called for the collection of a total of eight tests yielding twenty-six scores on each court-reporting student enrolled at the beginning of the fall term. The eventual status of these students, whether they succeeded or failed in completing the program, and whether they passed the CSR exam, constituted the criterion we were attempting to predict.

At the time this study was begun, the requirements for an associate degree in court reporting at MacCormac included a shorthand speed of 180 words a minute on literary and jury-charge material for five minutes, and testimony dictation at 200 words a minute for five minutes, both to be transcribed with at least 98% accuracy. (This was in addition to completing all required course work and meeting typing speed requirements.) During the course of the study, these requirements were raised to 225 w.a.m. for testimony, 200 w.a.m. jury-charge, and literary remained at 180 w.a.m., all with 98% accuracy in transcription. These reflected changes in the minimum passing speeds for the CSR exam.

Thus, the dichotomous definition of "success" used in this study does indicate certain specific levels of proficiency at both dictation and transcription. Award of the stenographic diploma also carries a specific meaning: It is awarded at the end of the first nine months to those students who do not qualify for admission to the court-reporting sequence by achieving a shorthand speed of 140 w.a.m. (130 when the study was begun) in two five-minute tests. Additionally, students who are unable to meet the speed requirements at any point during the second year may opt to receive the stenographic diploma.

Within the first week of the fall, 1976, term, the following data were collected on both entering freshmen and second-year court-reporting students (total number = 162):

Sex

Age

ACT -- four subscales and composite score

Short Tests of Clerical Ability -- Vocabulary*

Short Tests of Clerical Ability -- Language*

Short Tests of Clerical Ability -- Directions*

S.R.A. Verbal Scale*

Survey of Interpersonal Values* -- six subscales

Survey of Personal Values* -- six subscales

Years of piano training

MacCormac typing placement test -- gross w.a.m.
net w.a.m.
% accuracy

The student's status on the criterion was determined according to the following numerical scale:

1 = withdrew, no degree, no diploma

2 = accepted a stenographic diploma

3 = earned associate degree, but failed to pass CSR exam

4 = earned associate degree, failed CSR exam at least once, but ultimately passed CSR

5 = earned associate degree, passed CSR exam on first attempt

Analysis and Discussion of Data

Table 1 presents the means, standard deviations, and the correlation between each of the predictive measures and the

*Published by Science Research Associates, Chicago.

criterion.* (Since all but four subjects were female, and relatively few had received piano training, these two variables were eliminated from the analysis.)

Table 1 about here.

A positive correlation indicates that a high score on that variable was associated with the likelihood of success in the court-reporting program. A negative correlation indicates that a low score on that variable was associated with the likelihood of success.

As is shown in Table 1, four of the measures used correlated with the success criterion at a level which could be expected to occur by chance only 5% of the time, and eight of the measures correlated with the criterion at a level which could be expected to occur by chance only 1% of the time.

For further analysis, the subjects were randomly divided into a validation sample (two-thirds of the total group) and a cross-validation sample (the remaining one-third). A stepwise regression analysis was conducted on the validation sample in order to select the smallest number of measures which would comprise an accurate predictive battery. (Using all twelve of the measures which were significantly correlated with the criterion would be time-consuming and inefficient if use of a smaller subset of these measures would not result in any significant loss of predictive power.)

*Data analysis performed by Stanard & Rowe, Inc., Chicago.

This resulted in the selection of the following four measures to comprise a battery for assessing court-reporting aptitude among MacCormac applicants:

Typing placement test -- gross w.a.m.
Social Studies Reading score from the ACT
Goal Orientation subscale, Survey of Personal Values
Short Tests of Clerical Ability -- Language

Briefly, the ACT Social Studies Reading test is a 52-item, multiple-choice test that measures "comprehension, analytical and evaluative reasoning, and problem-solving skills required in the social studies." (ACT, 1977, p. 4) Scores on this test have also been found to correlate with Nelson-Denny reading scores (Schroeder, 1976) and the Social Studies Reading test has the highest reading difficulty level of all the four ACT subtests. (ACT, 1978) Thus, its contribution to the prediction of success in court-reporting may lie in its relationship to reading ability.

The Survey of Personal Values consists of thirty triads, on each of which the examinee must select what are to him the "most important" and the "least important" statements. This requires only about twenty minutes, and results in scores on six subscales. The Goal Orientation subscale is described as indicative of "having definite goals clearly in mind". (Buros, 1972, p. 359)

The Short Tests of Clerical Ability -- Language requires only about ten minutes. In a multiple-choice format, the examinee is asked to indicate whether a sentence has zero, one, two, three,

or four errors in it. These may be errors of grammar, punctuation, spelling, capitalization, etc. (Buros, 1978)

The multiple correlation between this four-test battery and the success criterion was .44 for the validation sample and .49 for the cross-validation sample. (Both of these correlations could be expected by chance less than 1% of the time.) It must be recalled that these correlations are based on predicting outcomes which occurred from one to two years after the initial testing.

Scores on the four tests are simply added to yield a composite score on the battery. For the total sample, the average composite score on these four measures was 95.8, standard deviation of 18.3. The average score on the criterion measure was 3.02, which is roughly equivalent to receiving the associate degree without passing the CSR exam. Using these two scores as dividing points, an expectancy table can be constructed to show the predictive accuracy of the test battery. (It should be noted that the use of the average composite score, 95.8, as a cut-off point is somewhat arbitrary. An individual with a composite score of 96 is not significantly more likely to succeed than an individual with a composite score of 95. However, the chances of success increase as the composite score increases, so that compared to a composite of 60, a score of 96 is much more likely to be associated with success.)

Table 2 about here.

Table 2 contains the percentage of the total sample who completed the associate degree, versus those who did not, according to whether their composite test-battery scores were above or below the average. Inspection of this table reveals that 76% of the individuals whose composite scores on the four-test battery were 96 or above completed the associate degree. We can also see that 24% of those scoring above average on the test battery failed to complete the associate degree. For those scoring below 96, only 38% completed the degree; 62% did not.

However, this does not present an accurate picture of the predictive ability of the battery. The total sample included sixty-one sophomores. Due to withdrawals during the first year, this group was already pre-selected: Those most likely to fail, and therefore to earn a low composite score, had already been eliminated before the test battery was administered. Table 3 allows us to look only at those subjects who were entering freshmen at the time of the testing. (For some, not all four scores were available, so that Table 3 is based on only 89 subjects.)

Table 3 about here.

Thus, if a cut-off for admission of 96 had been in effect for this group of freshmen, 65% of those admitted would have received the associate degree, instead of the 42% of the freshman class who actually did receive the degree. This represents a considerable improvement. Of those who would have been below

a cut-off of 96, 73% failed to receive the degree, compared to the 58% of all freshmen who failed to graduate with the associate degree.

Table 4 presents a more stringent criterion -- percent passing the CSR exam -- for the freshman group. According to this table, if only those with a composite score of 96 or better had been enrolled in the court-reporting program, 53% of them would have passed the CSR exam, as compared to the 35% of the total freshman class who actually did pass the CSR.

Table 4 about here.

Conclusion

As the previous section reveals, this four-test battery does not promise perfect prediction of success/failure in court-reporting training. However, as an admissions counseling guide, the composite battery score has been demonstrated to be a better predictor than the combination of ACT composite score and high-school record which had been used previously at MacCormac.

Although we do not plan to adhere rigidly to an arbitrary cut-off score on this battery, we are beginning to use this instrument in our recruitment and admissions counseling. At the same time, we are preparing a follow-up study to further test the predictive validity of the battery. (Results of this second longitudinal study await the completion of data collection on the classes which entered in the fall terms of 1977 and 1978.)

In the meantime, we believe that the use of this aptitude test battery can significantly improve the efficacy of the admissions process for court-reporting training programs. We offer this report in the hope that other institutions engaged in court-reporting training may profit from our research, for the benefit of all students and educators in this area.

TABLE 1

MEANS, STANDARD DEVIATIONS AND CORRELATIONS

FOR THE TOTAL SAMPLE (n=139)

Test	Mean	S.d.	Correlation With Success Criterion
S.T.C.A. - Vocabulary	19.41	5.14	- .31 *
S.T.C.A. - Language	6.93	2.96	.30 *
S.T.C.A. - Directions	15.36	5.53	- .02
SRA Verbal - Quantative	21.26	5.44	.06
SRA Verbal - Linguistic	30.37	6.65	.18 **
SRA Verbal - Total	51.63	10.98	.14
Survey of Interpersonal Values			
Support	17.98	4.98	.05
Conformity	12.31	6.44	.05
Recognition	11.24	4.4	.10
Independence	19.80	6.39	- .11
Benevolence	17.42	5.27	.04
Leadership	11.26	5.09	- .08
Survey of Personal Values			
Practical Mindedness	12.93	4.43	.05
Achievement	16.39	4.05	.09
Variety	10.18	7.59	- .18 **
Decisiveness	13.79	4.75	- .13
Orderliness	16.59	5.86	.10
Goal Orientation	20.06	4.62	.18 **
MacCormac Typing -			
Gross Words a Minute	50.06	14.68	.33 *
Net Words a Minute	38.91	17.56	.31 *
Percent Acuracy	75.25	22.25	.25 *
ACT - English Usage	19.43	4.39	.30 *
ACT - Math	16.54	5.90	.12
ACT - Social Studies	18.77	6.50	.29 *
ACT - Natural Sciences	20.32	5.39	.20 **
ACT - Composite	18.86	4.47	.28 *
Age	19.25	2.98	- .10
Success Criterion	3.02	1.71	--

* Designates significance at the .01 level. ** Designates significance at the .05 level.

Table 2

Expectancy Table for the Total Sample

Composite Score Range	Percent Rated Below Average on Criterion	Percent Rated Above Average on Criterion
96 and above (n=70)	24%	76%
0 - 95 (n=69)	62%	38%

Table 3

Expectancy Table for Freshmen Only

Composite Score Range	Percent Failing to Complete Associate Degree	Percent Who Completed Degree
96 and above (n=34)	35%	65%
0 - 95 (n=55)	73%	27%

Table 4

Expectancy Table for Freshmen Only

Composite Score Range	CSR Exam: Percent Failing	CSR Exam: Percent Passing
96 and above (n=34)	47%	53%
0 - 95 (n=55)	76%	24%

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